Communications of the Association for Information Systems

Volume 22 Article 30

4-2008

A Demographic and Content Survey of Critical Research in Information Systems for the Period 2001 – 2005

Donald Falconer
University of South Australia, d.falconer@unisa.edu.au

Recommended Citation
Falconer, Donald (2008) "A Demographic and Content Survey of Critical Research in Information Systems for the Period 2001 – 2005," *Communications of the Association for Information Systems*: Vol. 22 , Article 30.
DOI: 10.17705/1CAIS.02230
Available at: https://aisel.aisnet.org/cais/vol22/iss1/30

Communications of the Association for Information Systems

CAIS

A Demographic and Content Survey of Critical Research in Information Systems for the Period 2001 – 2005

Donald Falconer

School of Computer and Information Science

University of South Australia

d.falconer@unisa.edu.au

Abstract:

The information systems (IS) field has been the subject of many enquiries over the years, however, in relation to research from a critical theory perspective, such enquiries as have been reported are problematical. The field includes a small number of academics who research and engage in discourse on information systems topics from a critical theory perspective. The growth and influence of this group are the focus of this enquiry. The paper reports the results of an extensive demographic and content survey of information systems research and writing activity from a critical perspective published in leading information systems journals, conferences and specialist critical information systems forums in the period 2001–2005. Patterns and trends of critical research and of critical IS researchers and authors are identified. The findings show distinct regional and gender distributions of authors of critical papers compared with IS field norms. The paper contributes to the IS field's development by raising awareness of critical researchers' activities and providing an analysis of critical activity in the IS field.

Volume 22, Article 30 pp. 547- 568, May 2008

The manuscript was received 4/18/2007 and was with the author for 10 months for one revision.

I. INTRODUCTION

The information systems (IS) field has been the subject of many enquiries over the years, however, in relation to research from a critical theory perspective, such enquiries as have been reported are problematical. Several authors make unsupported claims that the volume of critical research in the IS field has increased in recent years [McGrath 2005; Kvasny and Richardson 2006]. Orlikowski and Baroudi's [1991] much-cited survey of IS research paradigms and methods found little evidence of critical research. Chen and Hirschheim [2004] found so few critical IS papers published in the 10 years after Orlikowski and Baroudi's [1991] survey that they dismissed the critical paradigm in their analysis of IS research. More recently, Richardson and Robinson [2007] revisited IS research for the period 1991–2001. Using a broad definition of critical research they found a small number of IS papers informed by the critical paradigm.

This paper contributes to an understanding of critical research in the IS field by arguing for a traditional meaning and role for critical research and reporting a detailed survey and analysis of critical research and publication in the IS field in the years 2001–2005.

Although currently a very small part of the overall IS research effort, critical research has the potential to effect relevant and necessary critique of the field's research effort and to identify new directions and opportunities for the IS field to serve society. Such research and debate have the potential to provide scrutiny of extant theories and practices and provide essential critique that is not possible unless the researcher places him/herself outside the existing research and practice paradigm [Horkheimer 1937]. Critical research thus warrants greater attention than its presence might suggest. Information systems (IS) activities surrounding the acquisition or development of the information systems of private enterprise and government are determining factors in modern economies and are at the centre of changes being wrought on our workplace environments and wider sections of society [Flecha 1999]. Castells writes that social changes and technological changes are intimately related: he proclaims "technology is society and society cannot be understood or represented without its technological tools" [Castells 1996, p25]. As these activities have grown in scale and changed with technological and business development, the academic information systems field has developed with a strong focus on serving the interests and needs of business. In doing so, the overwhelming majority of its research has systematically preferred the interests of the owners and managers of capital over the interests of workers and broader sections of society [Saravanamuthu 2002]. In the interests of social justice, the practices of the field should be subject to close scrutiny with a view to reducing oppression and promoting a humanist approach to information systems practice. The relevance debate [Benbasat and Zmud 1999; Applegate 1999] would then move from relevance to organizations to relevance to society. It is at this level that all are affected and lives are changed, for better or for worse, by the adoption of new information and communication technologies. Remenyi ". . . would like to see more effort being used to produce a richer life for more people rather than simply a focus on efficient corporate activity" [2002, p. 7] and calls for ". . . debate on the subject of balancing the power of the technology used for improving efficiency and creating an increasingly pleasant environment or society in which to live [Remyeni 2002, p. 7]. To this end, Čečez-Kecmanović calls for studies to ". . . investigate IS research itself as a social activity—its practice, purpose, and implications—from a critical theory perspective" [Čečez-Kecmanović 2005, p. 42].

Hence, the contribution of this paper is that it investigates IS research itself as a social activity. It reports the results of an extensive survey of publications in the years 2001–2005 by members of the academic information systems field who seek to research and engage in debate on information systems activities from a critical perspective.

The paper contributes to the IS field's development in several ways. It necessarily canvasses and contributes argument on the nature of critical research. It raises awareness of critical researchers' activities and provides an analysis of critical activity in the IS field. It also provides a benchmark of the level and distribution of critical research and writing achieved in the first years of this millennium.

II. CRITICAL THEORY

Critical theory is an intellectual movement rather than a specific theory and refers to the work of members of the Frankfurt School and later philosophers who extended their work. The Institut für Sozialforschung (Institute for Social Research), known as the Frankfurt School, evolved from a common interest in social theory by a group of German intellectuals during the difficult years before the National Socialists took power in Germany [Jay 1973] and

comprised a movement of radicals committed to the struggle against imperialism, the private ownership of scarce resources and constraints on personal initiative [Held 1980]. Burrell and Morgan write: ". . . [The] critical theorists [of the Frankfurt School] have forged a wide-ranging perspective which has consistently aimed to reveal the nature of capitalist society for what it is. They have sought to lay bare its underlying nature and set the basis for social change through a revolution of consciousness. In this endeavour they have subjected a wide range of social practice to critique" [Burrell and Morgan 1979, p. 291].

Horkheimer, the then new director of the Institute, stressed the necessity of developing cross-disciplinary social critique, the reconstituting of the Marxist project and the development of social theory to understand how society is reproduced and how society, economy, culture, and consciousness may be transformed [Held 1980]. In the early works, members of the Frankfurt School were preoccupied with the forces which could move society towards rational institutions that would provide a free and just life. Such a move would require radical change and their research was directed towards identifying and analyzing that which prevents such change. Their critique of society was intended to be all-embracing—all social practices were to be analyzed and understood. They believed that a critique of contemporary society would contribute to a critique of ideology and to the development of a nonauthoritarian and nonbureaucratic politics [Held 1980].

In 1933 the members of the institute were forced to flee to America where they sought to create a new critical consciousness of independent thought and judgement. In *One Dimensional Man* [Marcuse 1964], the object of critique changed from the economy of late capitalism to the idea of technical rationality. Marcuse was concerned with both the idea of technical efficiency as the guiding principle of social organization and the nature of the boundary between technology and its political uses [Connerton 1976]. Marcuse opined that, because technological development ". . . tends to create a totalitarian productive apparatus, which determines not only socially needed occupations, skills and attitudes, but also individual needs and aspirations, . . . culture, politics, and the economy merge into an omnipresent system which swallows up or repulses all alternatives" [Mattick in Wolff and Moore 1967, p. 375]. Habermas [1971] explained this modern social problem by claiming that technology has become the ideology, with the disappearance of the public realm in modern democratic societies.

Critical theory strives to provide both a substantive theory of the present age and a meta-theory of its presuppositions and method [Kellner n.d.]. Critical theorists see traditional social theories as reproducing dominant forms of social activity [Kellner n.d.]. As Kellner puts it "[t]raditional theory uncritically reproduces the existing society, while critical theory articulates activity striving to transform society" [Kellner n.d., p. 7]. Further, "[c]ritical theory is thus rooted in "critical activity" which is oppositional [and] involves criticism of oppression and exploitation and the struggle for a better society" [Kellner n.d., p. 7]. Critical theory is deeply self-reflexive and self-critical. Kellner [n.d.] urges critical researchers and theorists to develop new critiques of capitalist economy, the media, and technologies and connect with new social movements and struggles.

Habermas's Theory of Communicative Action

The work of the early Frankfurt School theorists was extended by Jürgen Habermas, whose objective is the self-emancipation of people from domination. His main aim is to increase the capacity of society to transform itself. In doing so, he elaborates a far-reaching critique of methods of domination in modern society. His early work was devoted to the development of his theory of cognitive interests; an attempt to build a relation between knowledge and human activity, leading eventually to his theory of communicative competence. This, in turn, forms the basis of Habermas' magnum opus, his theory of communicative action. Habermas argues that all speech is oriented towards attaining genuine consensus—an ideal speech situation. Such speech is an ideal speech act. All actions that contribute to the defeat of this position are communication distortions which must be removed if consensus is to be attained. Only by such acts are truth, freedom, and justice possible. Habermas contends that every communication made under coercion or situation of power asymmetries will result in distorted communication. Habermas's theory of communication has informed many of the critical discussion and empirical research papers in the information systems field.

Defining Critical Research

One of the purposes of critical research is to expose the political interest at the root of claims to neutrality in the construction of scientific knowledge. The political nature of the construction of knowledge must be understood so that choice can be made between the hegemonic political purpose of current knowledge bases and knowledge constructed from alternative values and principles.

The term "critical" is often misused or misapplied with the IS field as well as in other fields. It is often applied to research that seems to have, or gives an initial appearance of having, an emancipatory intent, regardless of its philosophical base, or world view that informs the research. This gives rise to the fundamental problem of a lack of

shared understandings as to the nature of critical research. Without shared understandings it behoves researchers to explain and defend their understandings. It is to this purpose that this paper now turns. In a recent extensive paper, Richardson and Robinson [2007] identify an ". . . absence of a unitary philosophical foundation [that] may be seen either as a sign of a healthy pluralism within CISR [critical IS research] or as a failure to define adequately a specifically critical approach" [2007, p.256]. Richardson and Robinson then proceed to include in their interpretation of Orlikowski and Baroudi's [1991] critical research definition a potpourri of modernist, postmodernist, postructuralist, and other approaches with the aim of "allow[ing] us to take account of the 'broad church' which CISR has become" [Richardson and Robinson 2007, p. 256]. Not all agree with this eclectic approach. Kellner [n.d.], argues strongly for a traditional definition of critical theory, reminding us that traditional critical theorists actively discredit postmodern theory as a philosophical basis for critical research and polemic. Fournier and Grey [2000] take up this theme. In the closely-related field of critical management studies (CMS), research informed by a plurality of critical traditions and philosophies: neo-Marxist labour process theory, the Frankfurt School, Gramscian hegemony theory, post-structuralism, deconstruction, literary criticism, feminist theory, and others is often labeled "critical." Fournier and Grey [2000] illustrate the problems arising from such inclusivity by describing a dichotomy within critical management studies. One approach to critical management activities is to ". . . contribute to the promotion and development of more humane forms of management" [Fournier and Grey 2000, p. 23]. This approach is not anti-management and does not aim to replace it; rather, it aims to reduce asymmetries of power and oppression through the development and promotion of ethical ideals in management theory and practice. This is the approach adopted by Alvesson and Willmott [1992], who aim to promote a more ethical approach to management. Fournier and Grey [2000] describe an alternative position as more or less complete disengagement with management practice. In this approach, critical management studies is expressly anti-management and its purpose is to undermine or replace it, not to reform it. Parker [2002] addresses the question of what properly constitutes critical research by summarizing the theoretical divisions within critical management studies. Parker suggests "It is difficult to imagine a robustly critical analysis of organization and management making sense without some form of residual commitment to Marxism" [Parker 2002, p. 125]. Parker argues that, owing to their ontology, poststructuralists are unable to ". . . distinguish key dualisms—manager/managed, oppression/emancipation, and so on " [Parker 2002, p. 126] which are essential to ideological analysis. Parker [2002] further argues that relativist philosophies are unable to contribute to emancipation. Parker accuses many CMS researchers of creating a ". . . fashionable form of relativism that is incapable of being politically critical" [2002, p. 127]. In a similar reflection, Sotirin and Tyrell [1998] discuss critical research in the organizational communications field, arguing that the role of the critical organizational communications scholar is to cultivate tensions rather than remove them. Rather than capitulating to management, they should prosecute their critical agenda vigorously on behalf of the general citizenry. Howcroft and Trauth [2004] recognize alternative views of what might constitute critical research within the IS field. These authors split critical research into two groups: the first, a militant position ". . . which is committed to the victims of corporate power" [Howcroft and Trauth 2004, p. 205], and the second, an ethical approach dedicated to promoting more humane forms of management: the participative approach espoused by Alvesson and Willmott [1992].

Richardson and Robinson [2007] continue their paper with the concern that pluralism in critical research carries the danger of co-option. While recognizing critical research's potential to give voice to the oppressed and suggesting dangers in pluralist approaches, Richardson and Robinson [2007] do not go so far as to support a traditional, narrow approach to critical research. Rather, they remain "on the fence" with suggestions for IS researchers to engage in debate to define critical research for the IS field. This is the kind of activity to which Parker refers as a ". . . side-show and not the main event" [Parker 2002, p. 127]. This author suggests that sufficient work has been published by traditional critical theorists for all to understand the nature and purposes of critical research without having to invent it anew specifically for the IS field. The question of what properly constitutes critical research is relevant and important for all fields of enquiry, not just information systems. This is a question that should be understood similarly for all fields: critical theory was conceived as a meta-theory for research in all fields and was deliberately conceived as cross-disciplinary.

This author agrees with Parker [2002] and Kellner [n.d.] and subscribes to a narrow, modernist definition of critical theory that accords with the first of Howcroft and Trauth's [2004] alternatives and opposes the broad, inclusive definition ascribed to Baroudi and Orlikowski's [1991] research by Richardson and Robinson [2007]. This author agrees with Richardson and Robinson [2007] that criticality must not be compromised in order to gain mainstream acceptance. Accordingly, papers identified as critical in this research are those that are described by their authors as having a modernist, emancipatory intent in the tradition of the Frankfurt School.

III. CRITICAL THEORY IN INFORMATION SYSTEMS

Critical theory in information systems has a relatively short history, with almost all early researchers focusing on the works of Jürgen Habermas, in particular, his Theory of Communicative Action [Lyytinen and Klein 1985; Lyytinen and Hirschheim 1988; Lyytinen 1992; Klein and Hirschheim 1993; Hirschheim and Klein 1994]. In the late 1990s critical research in information systems gained momentum through critical management studies (CMS) as it evolved

from antecedents including Labour Process Theory. Many academics would identify the seminal text edited by Alvesson and Willmott [1992] as the birth of critical management studies. Fournier and Grey [2000], Parker [2002] and Grey [2005] provide useful histories and commentaries on CMS. The first critical management studies conference was held in Manchester in 1999 and began a new chapter of critical enquiry. This conference included four streams related to information and communications technologies and their management. It is interesting to peruse the author lists of these tracks: many of the authors have populated the subsequent critical IS literature. Later critical management studies conferences have included critical IS papers, but not separate critical IS tracks. Specialist critical workshops have been run in the UK in 2001 and 2004. In recent years critical researchers in IS have based their discussions and research on the works of a range of critical philosophers other than Habermas. More recently, Howcroft and Trauth [2005] edited a book of critical IS readings and research. Howcroft and Wilson [2002], Howcroft and Trauth [2004] and Čečez-Kecmanović [2005] provide guides to the development and roles of critical research in IS and address issues that face critical researchers when deciding what critical means and how a critical ethos may inform practice.

Lee [1999] writes that critical theory has not received the attention it deserves in information systems research and teaching. Kvasny and Richardson [2006] assert that interest in critical research in information systems is now increasing and refer to recent publications as evidence. Kvasny and Richardson [2006] aver that despite this increased interest there is still a dearth of empirical research from a critical perspective. They suggest that critical IS research is at a crossroads, needing much development to establish its legitimacy in the IS field. McGrath [2005] asserts that a growing number of IS researchers claim that their research is informed by critical theory. McGrath [2005] suggests that many of these researchers would have proclaimed themselves as adherents to the interpretive paradigm 15 years ago. As an example, Walsham [2005] offers us his personal journey from interpretive to critical academic and researcher.

IV. PREVIOUS INFORMATION SYSTEMS SURVEYS

Many surveys of IS literature have been published over the years. The surveys included here illustrate various issues related to social issues in IS research, provide evidence of the critical perspective being overlooked by researchers, or provide direct evidence of the paucity of critical research and publication in IS in the years preceding the survey period of this study.

Iivari [1991, p. 201] provides a landmark, comprehensive analysis of the paradigmatic assumptions made by the major schools of thought of information systems development up to that time. Although the critical paradigm is mentioned, it does not form part of the substantive analysis. Iivari [1991, p. 268] offers the view that ". . . one can presuppose that the values of IS research should reasonably reflect those of IS practice, especially when one considers IS science as a means-end oriented discipline." He questions this and asks ". . . whether [IS's] role is just to adopt the prevailing value of orientations of IS practice and to be a servant to those stakeholder groups whose interests dominate the objectives and goals of organizations" [Iivari 1991, p.268]. Iivari [1991] cites Kumar and Welke [1984] who found job satisfaction and the quality of working life were considered irrelevant to IS developments in practice. Iivari [1991] responds with a hope that in the future a richer view of the organizational consequences will be considered before systems development occurs. Finally, Iivari [1991, p. 270] reflects on Klein's and Lyytinen's [1985] worry that ". . . there exists a vicious circle by which the prevailing constellation of assumptions is transferred to the next generation of IS researchers and practitioners." Iivari [1991] can be understood as a hope for a more human-oriented approach to information systems practice.

Jones [2000] surveys the use of social theory in International Federation for Information Processing Working Group 8.2 (IFIP WG8.2) conferences for the years 1975–1999. The survey is limited to identifying the references cited by papers published in these conferences. The survey does not differentiate between instances of mere mention-in-passing as compared to detailed exposition or empirical research based on the particular social theory. The survey also excludes a number of theorists, such as Braverman, as being primarily organizational theorists, whereas the current research being reported includes papers based on Braverman's work on the basis that the social focus is very similar to critical theorists. Jones reports that the citation rate of social theorists by IFIP WG8.2 in the period under review is higher than the citation rate of social theorists in information systems journals, as represented by *MIS Quarterly* and *Journal of Management Information Systems*. The only critical theorist reported to have been cited is Habermas who was cited by a few authors throughout the period surveyed. Overall, it can be concluded from Jones [2000] that few authors publishing in the IFIP WG8.2 conferences in this period cite the works of critical theorists and that such citations are limited to the works of Habermas.

Some surveys are more useful for what is not found, rather than what is. In a survey of ten years' publishing of the Information Systems Journal, Avison et al. [2001] do not mention critical research. This is an interesting result as it provides evidence of the lack of penetration of critical research in a leading IS journal. Palvia et al. [2004] survey all papers in seven leading US IS journals for the period 1998–2003. They report findings related to research methods,

but do not relate this to ontological, epistemological or ideological issues and therefore do not mention research from a critical theory perspective.

Two recent surveys provide useful context for the current survey. Neilson [2002] surveys five major management information systems (MIS) journals for the period January 1990 to September 2001 to assess the extent to which critical theory has been used in information systems research. The journals surveyed are listed in Table 1. A total of 32 papers were identified, but almost all merely mentioned critical theory. Only one paper is identified as using critical theory as the basis for an empirical study. The results are not surprising when Orlikowski and Baroudi [1991] report that in the period of their study, directly before that of Neilson's [2002] study, no critical theory papers were found. The largest recent survey that has relevance to the current research is that of Chen and Hirschheim [2004] who present the findings of a major survey of IS publications for the period 1991–2001. They examine research methods and underlying paradigms in 1,893 articles in eight major IS publications. They extend the work of Orlikowski and Baroudi [1991] who, in their much-cited paper, investigate the paradigmatic and methodological bases of empirical IS research in 155 papers published in three leading U.S. IS journals and the International Conference on Information Systems (ICIS) for the period 1985–1989. Orlikowski and Baroudi [1991] report no empirical IS research done using a critical paradigm. Chen and Hirschheim [2004] survey four leading European and three leading U.S. journals, and the conference ICIS (see Table 1) to obtain a cross-continental comparison. Chen and Hirschheim [2004, p. 201] quote Hirschheim and Klein [1992] who state that ". . . neohumanism and radical structuralism have not been well developed in the IS research community". They also follow Walsham [1995a; 1995b], Nandhakumar and Jones [1997] and Trauth and Jessup [2000] and suggest that ". . . in fact, the only real alternative paradigm observable in any numbers in IS research is interpretivism" [Chen and Hirschheim 2004, p. 201]. Accordingly, Chen and Hirschheim [2004] dismiss the critical paradigm and focus only on research from a positivist or interpretive paradigm. Robinson and Richardson [2007] survey critical research in the IS field by reviewing Chen and Hirschheim's [2004] findings and resurveying critical research publication for this period. Using a wide definition of critical research they report the publication of a small number of critical IS publications in the period 1991–2001.

Another work that provides comparative data is that of Flynn and Gregory [2004] who report on the use of social theories in empirical research published over the 20 years of IFIP WG8.2 conferences that had been held up to 2003. Their findings are especially relevant as this current survey includes IFIP WG8.2 and includes a gender analysis. They report that only one percent of empirical papers adopt the critical paradigm. They also report that 62 percent of empirical papers were first authored by males, although since 1999 the gender distribution of first authors has been more balanced. Flynn and Gregory [2004] report that 57 percent of empirical papers were of European origin, 33 percent North American and 10 percent Australasian.

In summary, these previous surveys provide firm evidence of very few critical IS papers having been published in major IS journals in the years preceding this survey. Even in IFIP WG8.2 conferences, widely regarded as the most-focused on social issues of IS, there has been very little published that is informed by critical theory. This, together with the more recent assertions by McGrath [2005] and Kvasny and Richardson [2006], provide context for the findings reported in this study.

V. OBJECTIVES

The objectives of this paper are to identify patterns and trends of critical information systems research and of critical IS authors and researchers for the period 2001–2005. Particular questions investigated are grouped under two headings: papers and authors.

Papers

1. What is being published under the aegis of critical IS research?
2. What is the distribution of critical IS papers across all surveyed publications?
3. What proportion of papers published in the surveyed publications can be classified as critical?
4. Is the number of critical IS papers increasing?
5. Is the number of empirical critical IS research papers increasing?
6. What is the regional distribution of critical IS papers?
7. What is the gender distribution of critical IS papers?
8. Is there a regional or gender bias of the first authors of the critical IS papers?

Authors

9. What is the regional distribution of first authors of critical IS authors / researchers?
10. What is the gender distribution of first authors of critical IS papers within each region?
11. Who are the most prolific first-author contributors to IS critical publication?

VI. METHOD

The method involves the selection of publications to survey, selection of a survey period, the process for identifying critical IS papers, the selection and employment of a coding system including coding criteria, and analysis processes.

Selection of Publications

A review was made of the selection methods of relevant previous surveys. Neilson [2002] uses Mylonpoulos' and Theokaris' [2002] IS journal rankings to select five major MIS journals (Table 1). In his review of information systems literature, Mingers [2003] surveys six leading IS journals (Table 1). Mingers [2003] cites four studies that survey various leading information systems or management journals and demonstrates that his selection continues a long tradition of recognizing these as leading journals. Chen and Hirschheim [2004] survey four leading European and three leading US journals, and the conference ICIS (Table 1).

Sawyer and Chen [2002] survey and contrast papers published in Information Systems Research (ISR) and IFIP WG8.2 for the period 1990–2001. They report that ISR publishes a much more diverse range of IS research than IFIP WG8.2, the papers of which focus much more on human IS issues. The findings of this paper lend support to the inclusion of IFIP WG8.2 conferences in the current survey.

The selection of publications follows that of Neilson [2002], Mingers [2003], and Chen and Hirschheim [2004] and is informed by the findings of Mylonpoulos and Theokaris [2002]. Additionally, it was decided that cross-continental comparisons were desirable as the intention was to survey as widely as was practicable. The resultant initial selection of journals represents a balance of U.S.-centric and Euro-centric quality IS journals and is shown in Table 1.

Table 1. Journals Surveyed in Previous Studies

	MISQ	ISR	EJIS	ISJ	I&O	JIT	CACM	JMIS	MS	ICIS (conf)
Neilson	x	x					x	x	x	x
Mingers	x	x	x	x	x	x				
Chen & Hirschheim	x	x	x	x	x	x		x		x
This study (initially)	x	x	x	x		x	x	x		

MISQ, MIS Quarterly; ISR, Information Systems Research; EJIS, European Journal of Information Systems; ISJ, Information Systems Journal; I & O, Information and Organization; JIT, Journal of Information Technology; CACM, Communications of the ACM; JMIS, Journal of MIS; MS, Management Science; ICIS, International Conference on Information Systems.

Walsham [2005] writes that there is a significant number of critical IS articles being published in "alternative" outlets, such as *Information and Organization* (I&O) and *Information Technology and People* (ITP). Accordingly, these two journals were added to the list of journals included in this study.

Additionally, it was decided to survey leading IS conferences. The conferences Americas Conference on Information Systems (AMCIS), International Conference on Information Systems (ICIS), European Conference on Information Systems (ECIS), Australasian Conference on Information Systems (ACIS) and the Pacific Asia Conference on Information Systems (PACIS) were surveyed. As the IFIP WG8.2 conference has a history of research and publication on social aspects of information systems, this was included. The two critical IS workshops (2001 and 2004) were included for completeness. Finally, during the course of the research the Handbook of Critical Information Systems Research (the Handbook) [Howcroft and Trauth, 2005] was published and was included in the survey. Editorials, book reviews, and other commentaries were excluded. Altogether 7,072 papers were surveyed.

Selection of Survey Period

The period 2001–2005 was chosen to fit with other surveys, to extend the Neilson 2002 survey and to complement the Chen and Hirschheim 2004 report.

Communications of the Association for Information Systems

Identification of "Critical" Papers

The objective was to identify all papers for which the authors claimed their papers to be critical in the tradition of the Frankfurt School or as having emancipatory intent. Accordingly, all journal bibliographical references, abstracts and keywords were uploaded to Endnote® and titles, abstracts and keywords were searched in the first instance using the keywords critical, critical theory, emancipation and emancipatory. This, of course, resulted in a large number of identified papers, all of which were personally scrutinized. As philosophical bases were identified, appropriate new search keys were used in a second search to identify any papers that might have been missed in the first search. Google Scholar® was also used with the same keywords to verify the results obtained.

All conference papers were available in PDF full-text format. All papers were sighted in full and the Acrobat® search facility was used to search each paper using the same keywords.

The critical workshops proceedings, IFIP WG8.2 proceedings and the Handbook were available in full text and were personally scrutinized.

Every effort was made to ensure accuracy and to minimize type 1 and 2 errors, but it is acknowledged that errors may have occurred.

Coding the Data

All 7,072 papers were coded for region of first and subsequent authors using the United Nations Schedule of World Macro Regions. All papers were coded for gender of first and subsequent authors.

All identified critical IS papers were then coded for content using Neilson's 2002 system. This provides a broad categorization under four headings: articles that mention critical theory in-passing (referred to as "mention-in-passing"); conceptual articles that discuss critical theory in comparison with other perspectives (referred to as "discussion-comparison"); conceptual articles which discuss critical theory alone (referred to as "discussion-alone"); and empirical research from a critical theory perspective. All articles identified by the search process were read in full to ensure correct coding.

Data Analysis

Data was collected into a spreadsheet program which was used to perform the analyses.

VII. RESULTS

This section addresses each of the research questions in turn. Appendix A provides extensive numerical tabulations to support the results in this section.

Question 1 What is being published under the aegis of critical IS research?

Of the 7,072 papers surveyed, 116 were identified as, at the very least, mentioning critical theory. These were classified and coded as explained in the methods section. Table 2 shows the distribution of identified papers across these classifications.

Table 2. Number and Percentage of Papers in Each Classification of "Critical" Papers Identified in the Surveyed Publications for the Years 2001–2005

Code	Classification	Number	Percentage
1	Mention-in-passing	24	21
2	Discussion-comparison	19	16
3	Discussion-alone	47	40
4	Empirical research from CT perspective	26	23
Total		116	100

As the mention-in-passing category represents papers in which critical theory is merely incidental to the arguments being addressed in those papers, this category cannot be considered to consist of critical theory papers. Accordingly, this category was not included in later analyses focused on papers that were classified as critical: the discussion and the empirical groups. Table 3 shows the number and percentage of the three categories of papers that can be classified as critical IS papers published in the surveyed publications in the survey period.

Table 3. The Number and Percentage of "Discussion" or Empirical Critical Papers Identified in the Surveyed Publications for the Years 2001–2005			
Code	Classification	Number	Percentage
2	Discussion-comparison	19	21
3	Discussion-alone	47	51
4	Empirical research from CT perspective	26	28
Total		92	100

Seventy-two percent of all critical papers are discussion papers, while 28 percent are empirical. The number of empirical papers represent several empirical research projects that have been reported in parts or stages over a number of papers. This survey has found only a small number of critical discussion papers and very little critical empirical IS research reported in the survey period.

Question 2 What is the distribution of critical IS research papers across all surveyed publications?

Although not classified as critical, the mention-in-passing papers are of interest as the demographics of this group make an interesting comparison with those of the three groups classified as critical papers.

Appendix A, Tables 1, 2, 3 and 4 show where the papers in each of the four categories were published for each of the survey years. The publication patterns of the categories are quite different from each other and provide strong evidence that critical IS research and publication has achieved very little penetration of mainstream IS journals and conferences.

Appendix A, Table 1 shows the year-by-year distribution of mention-in-passing papers. A majority of mention-in-passing papers were published in generalist IS journals, with almost none at generalist IS conferences. Eight were published at IFIP WG8.2 conferences, with seven of these published in 2004. The theme of this conference was a reflection of 20 years of IS research methods development since the famous "Manchester" conference in 1984. As such, many of the papers mentioned critical theory, but offered no discussion.

Appendix A, Table 2 shows the year-by-year distribution of discussion-comparison papers. This category contains the fewest papers. These are spread across all outlets and the number published each year is very small but consistent except for the increased publishing opportunities afforded by the "Manchester" 2004 IFIP WG8.2 conference and the 2005 Handbook.

Appendix A, Table 3 shows the year-by-year distribution of discussion-alone papers. This is by far the largest group of critical IS papers, representing more than half the total published. The publication of the discussion-alone papers has been much more targeted than papers in the other categories, with the two special 2002 critical research editions of JIT, the two specialist critical IS workshops and the Handbook accounting for most of the publications in the category. Additionally, the AMCIS conferences can be seen to have provided support to critical IS authors. Interestingly, almost nothing in this category was published at IFIP WG8.2 conferences.

Appendix A, Table 4 shows the year-by-year distribution of empirical papers. Virtually the only empirical critical papers published in generalist IS journals were two in the *Journal of Technology*, special edition in 2002. The remainder were published mainly in IFIP WG8.2 conferences. The AMCIS conference of 2001 is notable as in that year a critical mini-stream was offered which attracted empirical critical papers. The specialist critical IS publications, the workshops and handbook published little empirical research. These publications have been used mainly to contribute to discussion of matters related to critical research philosophies and methods.

Table 4 shows the combined five-year distribution of all critical papers across all publication categories surveyed. None were published in U.S. journals, although the U.S.-based AMCIS conference has been a reasonably popular venue for critical IS researchers and writers. IFIP WG8.2 has been popular in those years when the topic of the conference has been suitable for critical researchers. As expected, almost all papers published in the two critical research in information systems workshops and the handbook adopt a critical perspective.

Question 3 What proportion of papers published in the surveyed publications can be classified as critical?

Table 5 shows that less than one percent of papers published in major generalist IS forums are critical papers. Despite their social objectives, IFIP WG8.2 has published only a very small percentage of papers that embrace the

critical paradigm. Even specialist critical forums organized by researchers operating from a critical perspective did not publish critical papers exclusively.

Table 4. Distribution of All Critical IS Papers Across All Surveyed Publications over the Period 2001–2005

Forum	Number	Percentage of Total Critical Papers
JOURNALS		
US based	0	
European IS journals	22	
Total in Journals	**22**	**24**
GENERALIST IS CONFERENCES		
US-centred	13	
Asia/Pacific	6	
European	7	
Total in Generalist IS Conferences	**26**	**28**
SPECIALIST IS CONFERENCE (IFIP WG8.2)	**13**	**14**
CRITICAL WORKSHOPS	**15**	**16**
BOOK	**16**	**18**
TOTAL	**92**	**100**

Table 5. Number and Percentage of Papers Classified as Critical in Categories of Surveyed Publications for the Years 2001–2005

Publication	Total Papers Published	Number of Identified Papers*	Number of Critical Papers**	Percentage of Critical Papers
IS journal papers	2199	36	22†	1.0
IS generalist conference papers	4685	27	26	0.6
IS specialist conference papers	149	21	13	8.7
Critical IS workshops	21	15	15	71.4
Critical IS book	18	17	16	88.9
Total	7072	116	92	1.3

* Includes all four coded categories, including mention-in-passing.
** Excludes mention-in-passing papers.
† Includes eight papers in JIT in 2002

Question 4 Is the number of critical IS papers increasing?

Table 6 shows the number of papers classified as critical that were published in the surveyed publications in the years 2001–2005. A more-detailed analysis is presented in Appendix A, Tables 1 to 7. The mention-in-passing category is included here as it is of interest to note whether such mentions are increasing. They appear to be fairly stable at a very low level, except for 2004. As Appendix A, Table 1 shows, this is due to the "Manchester" IFIP WG8.2 conference which was a 20-year retrospective on research methods that obviously required many authors to mention critical research in their papers.

The overall number per year reported in this paper is higher than reported in earlier studies, however those studies did not include conferences or specialist critical IS publications, so direct comparison with this result is not possible. A more valid comparison can be made by comparing the numbers of papers published each year in the journals. The position for each of the classifications and aggregates of discussion and empirical papers is shown in Appendix A, Tables 2 to 7. This is still not a direct comparison as this survey includes more journals than the other studies. Nevertheless, by considering only journals the number of papers published averages three per year, of which virtually none are empirical. The number published in 2002 was boosted considerably by the 11 published in the two special critical research editions of JIT, two of which papers were empirical. This represents, on average, about 0.01 percent of all IS journal papers published each year in the period 2001–2005, a quite insignificant proportion

that accords with Chen's and Hirschheim's 2004 findings which led them to discard critical research as a category for their analysis.

Table 6: Number of Papers in Each Category for Each Year 2001–2005					
Classification	2001	2002	2003	2004	2005
Not classified as critical					
Mention in passing	3	2	6	11	2
Classified as critical					
Discussion comparison	3	2	2	6	6
Discussion alone	6	13	2	10	16
Empirical	7	4	5	6	4
Total Critical Papers	16	19	9	22	26

The publication rate for critical discussion, apart from a large dip in 2003, is very slowly increasing nominally but, owing to the very small base of published papers, the increase is insignificant in comparison to the overall increase in numbers of papers being published each year, particularly at generalist IS conferences. There is no increase in the number of critical papers being published in IS journals or generalist IS conferences, except for the special editions of JIT in 2002. Instead, the increase is due to the creation of specialist critical IS forums such as critical workshops and an edited book.

It may be concluded that there has been a small nominal increase in critical research publication which is due mostly to critical IS researchers creating their own outlets for their work.

Question 5 Is the number of empirical critical IS research papers increasing?

The publication rate for empirical critical research is stable at a very low volume with the most published in 2001 (7) (refer Appendix A, Table 4). It is distributed across conferences, with AMCIS being the main supporter, augmented by a small number of papers published in the critical workshops, the handbook and irregular publishing at IFIP WG8.2. The incidence of critical papers at IFIP WG8.2 conferences varies as it is a single-stream conference with a different focus each year. Overall, the number of empirical critical papers does not reflect the number of critical IS research projects as different aspects of a small number of projects have been reported in a series of papers by the researchers. Apart from 2003, specialist outlets have accounted for the majority of papers. In 2003 the momentum was maintained by researchers publishing in conferences as there were no specialist forums. This suggests a fairly constant low level of publication, with researchers preferring to publish at specialist outlets if they are available.

Question 6 What is the regional distribution of critical IS papers?

The regional analysis of critical IS papers focuses on papers, not authors. An analysis of authors, of whom there are fewer than there are papers, will be presented later in this paper. For this research, the affiliation of the first author declared on each paper is accepted as the region of the first author. So, if a Greek national author published a paper declaring her affiliation to be a UK university, then for the purposes of this study, that author is counted as belonging to the UK region. For the regional analysis of papers, the region of first author is the region of the paper. The region does not imply author nationality.

Appendix A, Table 8 shows the regional distribution of the 92 critical papers. Of these papers, 89 percent were published by members of three regions; the UK 51 percent; Australia 22 percent and the U.S. 16 percent. The remaining 11 percent (10 papers) were spread across five regions, including New Zealand, (three by a single author) and Canada (two by a single author) and Ireland (two), with nine regions not represented. Appendix A, Table 10 shows that in all three main regions, approximately two-thirds of critical publications comprise discussion papers, with a high of 77 percent in the UK. Virtually all critical IS papers originated in English-speaking countries. All European, South American, African and Asian countries mustered only two papers between them. A limitation of this study is that only English-language journals were surveyed. If there are critical IS traditions in these regions, the work is not being published in leading English-language IS academic forums. Further research is needed to establish whether critical IS discussion and research is being published in non-English forums. If this is not the case, research is needed to understand why two English-speaking countries, the UK and Australia, are relatively engaged in the critical paradigm when researchers from other regions are not.

The critical papers were further analyzed to identify the regional distribution of critical IS papers in each surveyed publication. Appendix A, Table 11 shows the results of this analysis. Appendix A, Table 11 shows the distribution across all surveyed forums of critical IS publications originating in different regions. Despite the US being the third most productive region, no critical IS papers were published in U. S.-centred journals during the survey period. AMCIS and IFIP WG8.2 were the most accommodating of the international conferences. Researchers in the US relied on AMCIS and specialist critical outlets, the workshops and the Handbook to publish their work. Researchers in the UK published more widely but still almost exclusively in European conferences or journals and the UK-based specialist workshops and the handbook. The special editions of *JIT* in 2002 were populated almost exclusively by British researchers. The Australian researchers followed a similar pattern to the British, except for their increased reliance on AMCIS and their absence from IFIP WG8.2.

Question 7 What is the gender distribution of critical IS papers?

The gender analysis of critical IS papers focuses on papers and uses the gender of first authors as the item of analysis. An analysis of authors, of whom there are fewer than there are papers, will be presented later in this paper.

Appendix A, Table 8 shows the gender distribution of first authors of the 92 critical IS papers published in the surveyed years. Female authors published 56.5 percent of the papers and males 43.5 percent. This table also shows the gender distribution of first authors of critical IS papers within each region. As previously stated, the main productive regions are the UK, U.S. and Australia. British and Australian papers are authored predominantly by females: UK, 66 percent and Australian, 65 percent. Papers originating in the U.S. do not conform to this gender distribution as only 40 percent of first authors are female.

The critical papers were further analyzed to identify the regional distribution of each gender of first authors for each surveyed publication. Appendix A, Tables 12 and 13 show the result of this analysis. The pattern of publication choice for each gender in each region is similar, except for a higher percentage of UK female authors publishing at IFIP WG8.2, ECIS and the handbook.

When the results of the regional analyses are combined with the results of the gender analyses, a pattern emerges of critical papers being published by predominantly UK-based female authors, with strong support from Australian female-authored papers. To contextualize this finding, the question must be asked whether this pattern is similar to or different from the normal regional and gender patterns of IS publications. It is to this question of regional or gender bias that this paper now turns.

Question 8 Is there a regional or gender bias of the first authors of the critical IS papers?

In order to answer this question, all 7,072 papers were coded by region and gender of first author. The regional distribution for all journal papers is shown in Table 7. This table compares the regional distribution of all critical IS papers with the regional distribution of only the major IS journals. This is done for two reasons. First, the regional distribution of major IS conference papers is not homogeneous as strong regional variations are a feature of the demographics of IS generalist conferences. Regional author biases do exist in IS journals but are much less pronounced. Second, the relative importance of journal publications as being representative of the accepted paradigmatic norms makes them appropriate for comparison purposes. All critical papers are included in the comparison as the paucity of critical papers published in journals renders a direct comparison meaningless.

First, it is clear from Table 7 that the U.S. is the source of the large majority of papers published in the leading IS journals. The UK with 9.3 percent, the Asian region (comprising all South-East Asian countries) with 6.3 percent and Western Europe with 5.1 percent are the only other regions publishing in any number in these journals. The U.S. is by far the largest influence if measured purely on numbers of papers published. This compares with the results obtained by Sinclaire et al. [2004] who surveyed the papers published in five leading U.S.-based IS journals for a 12-month period during 2002–2003. They report 77 percent of papers published were by U.S. first authors, with the remainder spread evenly across Canada, Australia, Hong Kong, Singapore, and Taiwan.

When the regional distribution of critical IS papers is compared to the normal distribution, it is apparent that strong regional biases exist in the publication of critical IS papers. The U.S. is underrepresented in the critical research domain and the UK is heavily over-represented, as is Australia. Australia's over-representation is consistent with that country's over-representation at international IS conferences. An explanation for this may lie in the Australian Government's policy of counting and rewarding research publications. Interestingly, Western Europe is under-represented. The number of critical publications from other regions is too small to allow meaningful analysis.

Table 7. IS Papers Published in all Surveyed Journals Compared with all Critical IS Papers Published in the Period 2001–2005

	All Journal Papers		All Critical IS Papers	
	Number	Percentage	Number	Percentage
United States	1309	63.1	15	16.3
Canada	57	2.7	2	2.2
Central America	2	0.1	0	0
United Kingdom	194	9.3	47	51.1
Western Europe	105	5.1	1	1.1
Eastern Europe	2	0.1	0	0
South America	3	0.1	1	1.1
Australia	42	2.0	20	21.7
New Zealand	16	0.8	3	3.3
Pacific	0	0.0	0	0
Africa	2	0.1	0	0
Asia	130	6.3	0	0
Scandinavia	67	3.2	1	1.1
Latin America	0	0.0	0	0
Ireland	9	0.4	2	2.2
Southern Europe	12	0.4	0	0
Western Asia	8	0.4	0	0
South Central Asia	1	0.0	0	0
unidentified	116	5.6	0	0

The same observation is made about gender distribution differences. The normal gender distribution for all IS papers is: papers with male first authors, 81 percent, and female first authors, 19 percent. This compares with the gender distributions for critical IS papers of 56.5 percent female and 43.5 percent males first authors. These analyses and comparisons reveal a strong bias towards the UK and Australian regions and female first authors of those regions.

Question 9 What is the regional distribution of first authors of critical IS authors / researchers?

So far, the analyses presented in this paper relate to the identified critical IS papers in the surveyed publications. Each individual paper counts as one item for inclusion in the domain of data studied. However, the number of first authors is fewer than the number of papers as several authors have published more than one paper in the period. The remainder of the results presented in this paper relate to these authors rather than the papers. Although there are 92 individual critical papers, these were written by only 49 authors.

Appendix A, Table 9 presents the regional distribution of these authors. The UK has by far the largest number of first authors (25) being 51 percent of total first authors. The U.S. has 10 first authors (20.4 percent). Australia has seven (14.3 percent) and there is a smattering of papers from other regions. Thus the UK and Australia are over-represented with the UK being easily the most significant centre for critical IS publication. If second and subsequent authors were to be included in the results, they would be slightly changed through cross-regional links being recognized. However, this paper is limited to reporting first-author activity. A comparison of the numbers of papers in different regions with the numbers of different first authors associated with those regions reveals a large disparity in the UK and Australia. In the UK region, 25 authors published 47 papers, while in Australia, seven authors published 20 papers.

Question 10 What is the gender distribution of first authors of critical IS papers within each region?

Appendix A Table 9 also includes the results of the gender analysis of first authors of critical papers. Of the 49 authors of critical papers, females are associated with only the U.S., UK, Australia and Canada: all English-speaking regions (Québécois excepted and acknowledged). Although female authors are only represented in these regions, they are over-represented when compared to IS author gender-distribution norms. Thus, there is a strong female gender bias among critical authors in all the main critical IS publishing regions. In the UK region, 12 female authors published 31 papers, while two female authors in Australia published 13.

The results of the regional analyses of critical authors combined with the results of the gender analyses of critical authors reveal an even greater concentration of female authors in the UK and Australia.

Question 11 Who are the most prolific first-author contributors to IS critical publication?

Appendix A, Table 14 lists the most prolific female and male critical IS authors of papers published in the surveyed forums in the years 2001–2005. Thirteen authors account for 50 (54 percent) of the 92 critical papers. Of these, seven are UK authors, two are U.S., two are from Australia, one New Zealand and one is affiliated with both the UK and Ireland. By far the most prolific is Čečez-Kecmanović who published 11 papers as first author and was second or subsequent author of several others. Similarly, most of the other authors listed in Table 12 as first authors have also been co-authors of other papers. Of the 13 most prolific first-authors, eight are female and together account for 35 (38 percent) of the critical IS papers published.

VIII. CONCLUSIONS

A number of conclusions may be drawn from these results.

Most of the papers described as critical by their authors are discussion papers; there is very little research that is informed by critical theory published in the surveyed forums during the survey period.

There were almost no critical papers published in major IS journals. A small number of critical publications have been published at generalist IS conferences, in particular AMCIS. There has been a small increase in the number of critical papers published, but that has been mostly confined to two special editions of one journal and specialist publication outlets organized by the critical researchers themselves. This increase, however, lags behind the increase in IS publication in general.

The critical research paradigm has been adopted by only a few researchers whose recent papers are mainly in specialist critical publications. Critical IS researchers can be seen as largely a self-publishing group.

There is a large gender and regional bias of British and Australian researchers and authors. The female authors of these regions have been particularly productive. Further research would be needed to understand the reasons for these distributions.

The critical paradigm is not widespread in the IS field. Even in the regions contributing the highest numbers of critical papers, they represent the work of only a handful of researchers and writers. This is possibly the result of the early development of the IS field being focused on the single purpose of serving the interests of business. The normative value systems underlying the IS field's applied and purposive research are well-established and pervade the IS field. Critical researchers in all fields draw on their own personal values and beliefs for their motivation which, Walsham notes "is not to everyone's taste" [Walsham 2005, p. 113]. Research informed by alternative values is not well established in the IS field. Research within radical paradigms is well established in some other fields: for instance, the field of educational sociology has a strong critical tradition [e.g. Margolis 2001]. This may offer examples for IS researchers wishing to learn of research from a critical perspective.

Much earlier in this paper the problem of the lack of shared understandings of the nature of critical theory and critical research were discussed. Alternative views were cited and argument was made for the traditional view that informs this paper. In the absence of shared understanding IS researchers and writers are forever condemned to explaining themselves and defending their positions. Additionally, comparisons with survey research informed by other meanings will remain problematical. Discussion on the nature of critical research is needed urgently, but only to educate and inform, not to reinvent that which has been exhaustively developed and debated in other fields. Let us avoid the problems that Parker [2002] describes as existing within critical management studies.

The world we inhabit is continually changing: environmental issues, global warming, sustainable societies, inequitable wealth distribution, and the very nature of society itself demand our attention. Moreover, information systems activity itself is continually changing our world. The need for the IS field to support new challenges is obvious. Critical research provides much-needed reflexivity for the field to examine our approaches and identify opportunities to make greater contributions to our societies. To this end critical researchers must be encouraged to increase their voice in our community.

ACKNOWLEDGEMENTS

I wish to thank Professor Alexander Kouzmin. I also wish to thank the editor-in-chief, Professor Joey George, the associate editor and the anonymous reviewers for their valuable insights and suggestions for improving the paper.

REFERENCES

Editor's Note: The following reference list contains hyperlinks to World Wide Web pages. Readers who have the ability to access the Web directly from their word processor or are reading the paper on the Web, can gain direct access to these linked references. Readers are warned, however, that:

1. These links existed as of the date of publication but are not guaranteed to be working thereafter.
2. The contents of Web pages may change over time. Where version information is provided in the References, different versions may not contain the information or the conclusions referenced.
3. The author(s) of the Web pages, not AIS, is (are) responsible for the accuracy of their content.
4. The author(s) of this article, not AIS, is (are) responsible for the accuracy of the URL and version information.

Applegate, L. (1999). "Rigor and Relevance in IS Research – Introduction," *MIS Quarterly* (23)1, pp. 1–2.

Alvesson, M. and H. Willmott (eds.) (1992). *Critical Management Studies,* London: Sage Publications.

Avison, D., G. Fitzgerald, and P. Powell. (2001). "Reflections on Information Systems Practice, Education and Research: 10 years of the Information Systems Journal," *Information Systems Journal* (11), pp. 3–22

Benbasat, I. and R. Zmud (1999). "Empirical Research in Information Systems: the Practice of Relevance", MIS Quarterly (23)1, pp. 3–16

Bunker, D., M. Cole, J. F. Courtney, J. D. Haynes, and S. Richardson. (2005). "Philosophical Foundations of Information Systems: A Review of the First 10 Years," in Proceedings of the Eleventh Americas Conference on Information Systems, Omaha, Nebraska, pp. 2866–2869.

Burrell, G. and G. Morgan. (1979). *Sociological Paradigms and Organisational Analysis*, London: Heinemann.

Castells, M. (1996). *The Rise of the Network Society*, Vol I, Blackwell, Cambridge MA.

Čečez-Kecmanović, D. (2005). "Basic Assumptions of the Critical Research Perspectives in Information Systems," in Howcroft, D. and E. M. Trauth (eds.) *Handbook of Critical Information Systems Research* Cheltenham, UK: Edward Elgar, pp. 19–45.

Chen, W. and R. Hirschheim. (2004). "A Paradigmatic and Methodological Examination of Information Systems Research from 1991 to 2001," *Information Systems Journal* (14), pp. 197–235.

Connerton, P. (ed.) (1976). *Critical Sociology*, Harmondsworth, UK: Penguin.

Flecha, R. (1999). "New Educational Inequalities," in Castells, M., R. Flecha, P. Freire, H.A Giroux, D. Macedo and P. Willis (eds.) *Critical Education in the New Information Age*, Rowman & Littlefield Publishers Inc., New York, pp. 65–82.

Flynn, D. and P. Gregory. (2004). "The Use of Social Theories in 20 Years of WG8.2 Empirical Research," in Kaplan, B., D. Truex, D. Wastell, T. Wood-Harper, and J. DeGross (eds.) *Information Systems Research: Relevant Theory and Informed Practice*, Boston: Klewer pp. 365–388.

Fournier, V. and C. Grey. (2000). "At the Critical Moment: Conditions and Prospects for Critical Management Studies," *Human Relations*, (53)1, pp. 7–32.

Grey, C. (2005). "Critical Management Studies: Towards a More Mature Politics," in Howcroft, D. and E. M. Trauth (eds.) *Handbook of Critical Information Systems Research*, Cheltenham, UK: Edward Elgar, pp. 174–193.

Habermas, J. (1971). *Towards a Rational Society*, Shapiro, J. (trans.) London: Heinemann.

Held, D. (1980*). Introduction to Critical Theory: Horkheimer to Habermas*, London: Hutchinson Publishing Group.

Hirschheim, R. and H. K. Klein. (1992). "Paradigmatic Influences on Information Systems Development: Evolution and Conceptual Advances," in Yovits, M. (ed.) *Advances in Computers*, New York: Academic Press, pp. 293–392.

Hirschheim, R. and H. K. Klein. (1994). "Realizing Emancipatory Principles in Information Systems Development: the Case for ETHICS," *MIS Quarterly* (18) pp. 83–109.

Horkheimer, M. (1937). *Critical Theory: Selected Essays*, trans O'Connell, MJ 1972, New York: Herder and Herder.

Howcroft, D. and M. Wilson. (2002). "Paradoxes of Participatory Practices: the Janus Role of the Systems Developer," *Information and Organization*, (13), pp 1–24.

Howcroft, D. and E. M. Trauth. (2004). "The Choice of Critical Information Systems Research," in Kaplan, B., D. Truex, D. Wastell, T. Wood-Harper, and J. DeGross (eds.) *Information Systems Research: Relevant Theory and Informed Practice*, Boston: Klewer, pp. 195–211.

Howcroft, D. and E. M. Trauth. (eds.) (2005). *Handbook of Critical Information Systems Research*, Cheltenham, UK: Edward Elgar.

Howcroft, D. and E. M. Trauth. (2005). "Choosing Critical IS Research," in Howcroft, D. and E.M Trauth (eds.) *Handbook of Critical Information Systems Research*, Cheltenham, UK: Edward Elgar, pp. 1–18.

Jay, M. (1973). *The Dialectical Imagination: a History of the Frankfurt School and the Institute of Social Research 1923—1950*, Boston: Little Brown.

Jones, M. (2000). "The Moving Finger: The Use of Social Theory in WG 8.2 Conference Papers, 1975–1999," in Baskerville, R., J. Stage, J. DeGross (eds.) *Organizational and Social Perspectives on Information Technology*, Boston: Klewer, pp. 15–31.

Kellner, D. (n.d.) (2007). "Critical Theory and the Crisis of Social Theory. " http://www.uta.edu/huma/illuminations/kell5.htm, accessed 5 December 2007.

Klein, H. K. and R. Hirschheim. (1993). "The Application of Neohumanist Principles in Information Systems Development," in Avison, D., J. E. Kendall, and J. DeGross (eds.) *Human, Organizational, and Social Dimensions of Information Systems Development*, Amsterdam: North-Holland, pp. 263–280.

Klein, H. K. and K. Lyytinen. (1985). "The Poverty of Scientism in Information Systems," in Mumford, E., R. Hirschheim, G. Fitzgerald, and A. T. Wood-Harper, (eds.) *Research Methods in Information Systems*, Amsterdam: North-Holland, pp. 131–161.

Kumar, K and R. Welke. (1984). "Implementation Failure and System Developer Values: Assumptions, Truisms and Empirical Evidence," in Proceedings of the Fifth International Conference on Information Systems, Tucson, Arizona, pp. 1–13.

Kvasny, L. and H. Richardson. (2006). "Guest Editorial: Critical Research in Information Systems: Looking Forward, Looking Back," *Information Technology & People*, (19), pp. 196–202.

Lee, A. S. (1999). "Researching MIS," in Currie, W. and R. Galliers (eds.) *Rethinking Management Information Systems*, Oxford: Oxford University Press, pp. 7–27.

Iivari, J. (1991). "A Paradigmatic Analysis of Contemporary Schools of IS Development," *European Journal of Information Systems*, (1), pp. 249–272.

Lyytinen, K. (1992). "Information Systems and Critical Theory," in Alvesson, M and H. Willmott (eds.) *Critical Management Studies*, London: Sage Publications, pp. 150–180.

Lyytinen, K. and R. Hirschheim. (1988). "Information Systems as Rational Discourse: an Application of Habermas' Theory of Communicative Action," *Scandinavian Journal of Management Studies*, (4), pp.19–30.

Lyytinen, K. and H. K. Klein. (1985). "The Critical Social Theory of Jürgen Habermas as a Basis for a Theory of Information Systems," in Mumford, E., R. Hirschheim, G. Fitzgerald, and T. Wood-Harper, (eds.) *Research Methods in Information Systems*, Amsterdam: North-Holland, pp. 219–232.

Marcuse, H. (1964). *One Dimensional Man: Studies in the Ideology of Advanced Industrial Countries*, Boston: Beacon Press.

Margolis, E. (2001). (ed.) *The Hidden Curriculum in Higher Education*, Routledge: New York.

McGrath, K. (2005). "Doing Critical Research in Information Systems: a Case of Theory and Practice Not Informing Each Other," *Information Systems Research* (15), pp. 85–101.

Mingers, J. (2003). "The Paucity of Multimethod Research: A Review of the Information Systems Literature," *Information Systems Journal* (13), pp. 233–249.

Mylonpoulos, N. A. and V. Theokaris. (2002). "Global Perceptions of IS Journals," *Communications of the ACM* (44)9, September, pp. 29–33.

Nandhakumar, J. and M. Jones. (1997). "Too Close for Comfort? Distance and Engagement in Interpretive Information Systems Research," *Information Systems Journal* (7), pp. 109–131.

Neilson, L. (2002). "Critical Theory in MIS Research: an Exploration," in Proceedings of the Administrative Sciences Association of Canada Conference, Winnipeg, Manitoba, pp. 50–60.

Orlikowski, W. J. and J. J. Baroudi. (1991). "Studying Information Technology in Organizations: Research Approaches and Assumptions," *Information Systems Research* (2), pp. 1–28.

Palvia, P., T. Leary, P. Pinjani, and V. Midha. (2004). "A Meta Analysis of MIS Research," in Proceedings of the Tenth Americas Conference on Information Systems, New York, pp. 4221–4231.

Parker, M. (2002). *Against Management*, Cambridge, UK: Polity Press.

Remenyi, D. (2002). "As the First 50 Years of Computing Draw to an End … What Kind of Society Do We Want?" *Journal of Information Technology* (17)1, pp. 3–7.

Richardson, H. and B. Robinson. (2007). "The Mysterious Case of the Missing Paradigm: A Review of Critical Information Systems Research 1991–2001," *Information Systems Journal* (17), pp. 251–270.

Saravanamuthu, K. (2002). "Information Technology and Ideology," *Journal of Information Technology* (17), pp. 79–87.

Sinclaire, J. K., J. Simon and R. B. Wilkes. (2004). "Research Directions in MIS: an Assessment of Current Status," in Proceedings of the Tenth Americas Conference on Information Systems, New York, pp. 4243–4256.

Sotirin, P. and S. J. Tyrell. (1998). "Wondering About Critical Management Studies: A Review and Commentary on Selected Texts," *Management Communication Quarterly* (12)2, pp. 303–336.

Trauth, E. M. and L. M. Jessup. (2000). "Understanding Computer-Mediated Discussions: Positivist and Interpretive Analyses of Group Support System Use," *MIS Quarterly* (24), pp. 43–79.

Walsham, G. (1995a). "Interpretive Case Studies in IS Research: Nature and Method," *European Journal of Information Systems* (4), pp. 74–81.

Walsham, G. (1995b). "The Emergence of Interpretivism in IS Research," *Information Systems Research* (6), pp. 376–394.

Walsham, G. (2005). "Learning About Being Critical," *Information Systems Journal* (15), pp. 111–117.

Walsham, G. (2005). "Critical Engagement: Why, What and How?" in Howcroft, D. and E. M. Trauth (eds.) *Handbook of Critical Information Systems Research*, Cheltenham, UK: Edward Elgar, pp. 225–243.

Wolff, K. H. and B. Moore. (eds.) (1967). *The Critical Spirit: Essays in Honor of Herbert Marcuse*, Boston: Beacon Hill Press.

APPENDIX A: NUMERICAL TABULATIONS IN SUPPORT OF SECTION VII - RESULTS

CODE 1 - all mention-critical-in-passing papers

	2001	2002	2003	2004	2005	TOTAL
Generalist Information Systems Publications						
Journals						
Info & Org'n						0
IT & People			1			1
ISR			1		1	2
Com of ACM						0
JMIS						0
EJIS	1	1	1	2		5
ISJ				2		2
JIT	1		1			2
MISQ		1	1			2
sub total	2	2	5	4	1	14
Conferences						
ACIS						0
AMCIS	1					1
ECIS						0
PACIS						0
ICIS						0
sub total	1	0	0	0	0	1
Specialist Information Systems Publication						
Conference						
IFIP WG 8.2			1	7		8
Specialist Information Systems Critical Theory Publications						
Workshops						
CRIS-1						0
CRIS-2						0
sub Total	0	0	0	0	0	0
Book						
Handbook					1	1
sub total	0	0	0	0	1	1
TOTAL	3	2	6	11	2	24

Table 1: All papers classified as mention-in-passing (code1) by publication and year

CODE 2 - all critical discussion comparison papers

	2001	2002	2003	2004	2005	TOTAL
Generalist Information Systems Publications						
Journals						
Info & Org'n						0
IT & People				1		1
ISR						0
Com of ACM						0
JMIS						0
EJIS					1	1
ISJ	1		1		1	3
JIT		1				1
MISQ						0
sub total	1	1	1	1	2	6
Conferences						
ACIS			1	1	1	3
AMCIS		1				1
ECIS	1					1
PACIS						0
ICIS						0
sub total	1	1	1	1	1	5
Specialist Information Systems Publication						
Conference						
IFIP WG 8.2				1		1
Specialist Information Systems Critical Theory Publications						
Workshops						
CRIS-1	1					1
CRIS-2				3		3
sub total	1	0	0	3	0	4
Book						
Handbook					3	3
sub total	0	0	0	0	3	3
TOTAL	3	2	2	6	6	19

Table 2: All critical papers classified as discussion comparison (code 2) by publication and year

CODE 3 - all critical discussion alone papers

	2001	2002	2003	2004	2005	TOTAL
Generalist Information Systems Publications						
Journals						
Info & Org'n			1			1
IT & People						0
ISR						0
Com of ACM						0
JMIS						0
EJIS						0
ISJ			1		2	3
JIT		8		1		9
MISQ						0
sub total	0	8	2	1	2	13
Conferences						
ACIS					1	1
AMCIS	2	3		3		8
ECIS		1		1	1	3
PACIS						0
ICIS						0
sub total	2	4	0	4	2	12
Specialist Information Systems Publication						
Conference						
IFIP WG 8.2		1		2	1	4
Specialist Information Systems Critical Theory Publications						
Workshops						
CRIS-1	4					4
CRIS-2				3		3
sub total	4	0	0	3	0	7
Book						
Handbook					11	11
sub total	0	0	0	0	11	11
TOTAL	6	13	2	10	16	47

Table 3: All critical papers classified as 'discussion alone' (code 3) by publication and year

CODE 4 - critical empirical papers

	2001	2002	2003	2004	2005	TOTAL
Generalist Information Systems Publications						
Journals						
Info & Org'n						0
IT & People					1	1
ISR						0
Com of ACM						0
JMIS						0
EJIS						0
ISJ						0
JIT		2				2
MISQ						0
sub total	0	2	0	0	1	3
Conferences						
ACIS			1			1
AMCIS	3			1		4
ECIS	1		1		1	3
PACIS			1			1
ICIS						0
sub Total	4	0	3	1	1	9
Specialist Information Systems Publication						
Conference						
IFIP WG 8.2		2	2	4		8
Specialist Information Systems Critical Theory Publications						
Workshops						
CRIS-1	3					3
CRIS-2				1		1
sub Total	3	0	0	1	0	4
Book						
Handbook					2	2
sub Total	0	0	0	0	2	2
TOTAL	7	4	5	6	4	26

Table 4: All critical papers classified as 'empirical' (code 4) by by publication and year

ALL CODES - all identified papers

	2001	2002	2003	2004	2005	TOTAL
Generalist Information Systems Publications						
Journals						
Info & Org'n	0	0	1	0	0	1
IT & People	0	0	1	1	1	3
ISR	0	0	1	0	1	2
Com of ACM	0	0	0	0	0	0
JMIS	0	0	0	0	0	0
EJIS	1	1	1	2	1	6
ISJ	1	0	2	2	3	8
JIT	1	11	1	1	0	14
MISQ	0	1	1	0	0	2
sub total	3	13	8	6	6	36
Conferences						
ACIS	0	0	2	1	2	5
AMCIS	6	4	0	4	0	14
ECIS	2	1	1	1	2	7
PACIS	0	0	1	0	0	1
ICIS	0	0	0	0	0	0
sub Total	8	5	4	6	4	27
Specialist Information Systems Publication						
Conference						
IFIP WG 8.2	0	3	3	14	1	21
Specialist Information Systems Critical Theory Publications						
Workshops						
CRIS-1	8	0	0	0	0	8
CRIS-2	0	0	0	7	0	7
sub Total	8	0	0	7	0	15
Book						
Handbook	0	0	0	0	17	17
sub Total	0	0	0	0	17	17
TOTAL	19	21	15	33	28	116

Table 5: All papers identified as critical by mention-in-passing (code 1), or discussion-comparison (code 2), or discussion alone (code 3) or empirical (code 4) by publication and year

CODES 2 & 3 - all critical discussion papers

	2001	2002	2003	2004	2005	TOTAL
Generalist Information Systems Publications						
Journals						
Info & Org'n	0	0	1	0	0	1
IT & People	0	0	0	1	0	1
ISR	0	0	0	0	0	0
Com of ACM	0	0	0	0	0	0
JMIS	0	0	0	0	0	0
EJIS	0	0	0	0	1	1
ISJ	1	0	2	0	3	6
JIT	0	9	0	1	0	10
MISQ	0	0	0	0	0	0
sub total	1	9	3	2	4	19
Conferences						
ACIS	0	0	1	1	2	4
AMCIS	2	4	0	3	0	9
ECIS	1	1	0	1	1	4
PACIS	0	0	0	0	0	0
ICIS	0	0	0	0	0	0
sub Total	3	5	1	5	3	17
Specialist Information Systems Publication						
Conference						
IFIP WG 8.2	0	1	0	3	1	5
Specialist Information Systems Critical Theory Publications						
Workshops						
CRIS-1	5	0	0	0	0	5
CRIS-2	0	0	0	6	0	6
sub Total	5	0	0	6	0	11
Book						
Handbook	0	0	0	0	14	14
sub Total	0	0	0	0	14	14
TOTAL	9	15	4	16	22	66

Table 6: All critical papers classified as "discussion" (code 2 or 3) by publication and year

CODES 2, 3 & 4 - all critical discussion papers and empirical papers

	2001	2002	2003	2004	2005	TOTAL
Generalist Information Systems Publications						
Journals						
Info & Org'n	0	0	1	0	0	1
IT & People	0	0	0	1	1	2
ISR	0	0	0	0	0	0
Com of ACM	0	0	0	0	0	0
JMIS	0	0	0	0	0	0
EJIS	0	0	0	0	1	1
ISJ	1	0	2	0	3	6
JIT	0	11	0	1	0	12
MISQ	0	0	0	0	0	0
sub total	1	11	3	2	5	22
Conferences						
ACIS	0	0	2	1	2	5
AMCIS	5	4	0	4	0	13
ECIS	2	1	1	1	2	7
PACIS	0	0	1	0	0	1
ICIS	0	0	0	0	0	0
sub Total	7	5	4	6	4	26
Specialist Information Systems Publication						
Conference						
IFIP WG 8.2	0	3	2	7	1	13
Specialist Information Systems Critical Theory Publications						
Workshops						
CRIS-1	8	0	0	0	0	8
CRIS-2	0	0	0	7	0	7
sub Total	8	0	0	7	0	15
Book						
Handbook	0	0	0	0	16	16
sub Total	0	0	0	0	16	16
TOTAL	16	19	9	22	26	92

Table 7: All critical papers classified as either 'discussion' (code 2 or 3) or "empirical" (code 4) by publication and year

REGION	NUMBER OF PAPERS		First Author Gender			
			MALE		FEMALE	
	Number	Percentage of Total	Number	Per Cent	Number	Per Cent
United States	15	16.3%	9	60.0%	6	40.0%
Canada	2	2.2%	0	0.0%	2	100.0%
Central America						
United Kingdom	47	51.1%	16	34.0%	31	66.0%
Western Europe	1	1.1%	1	100.0%	0	0.0%
Eastern Europe						
South America	1	1.1%	1	100.0%	0	0.0%
Australia	20	21.7%	7	35.0%	13	65.0%
New Zealand	3	3.3%	3	100.0%	0	0.0%
Pacific						
Africa						
Asia						
Scandinavia	1	1.1%	1	100.0%	0	0.0%
Latin America						
Ireland	2	2.2%	2	100.0%	0	0.0%
Southern Europe						
Western Asia						
South Central Asia						
Total	92	100.0%	40	43.5%	52	56.5%

Table 8 – Number of papers by regions for papers classified as critical (discussion and empirical) published in all surveyed publications for the years 2001 – 2005

REGION	NUMBER OF FIRST AUTHORS		GENDER			
			MALE		FEMALE	
	Number	Percentage of Total	Number	Per Cent	Number	Per Cent
United States	10	20.4%	6	60.0	4	40.0
Canada	1	2.0%	0	0.0	1	100.0
Central America						
United Kingdom	25	51.0%	13	52.0	12	48.0
Western Europe	1	2.0%	1	100.0	0	0.0
Eastern Europe						
South America	1	2.0%	1	100.0	0	0.0
Australia	7	14.3%	5	71.4	2	28.6
New Zealand	1	2.0%	1	100.0	0	0.0
Pacific						
Africa						
Asia						
Scandinavia	1	2.0%	1	100.0	0	0.0
Latin America						
Ireland	2	4.1%	2	100.0	0	0.0
Southern Europe						
Western Asia						
South Central Asia						
Total	49	100.0%	30	61.2	19	38.8

Table 9 – Number of first authors by regions for papers classified as critical (discussion and empirical) published in all surveyed publications for the years 2001 - 2005

REGION	TOTAL CRITICAL PAPERS	DISCUSSION-COMPARISON AND DISCUSSION ALONE PAPERS		EMPIRICAL PAPERS	
		Number	Percentage	Number	Percentage
United States	15	10	66.7%	5	33.3%
Canada	2		0.0%	2	100.0%
Central America					
United Kingdom	47	36	76.6%	11	23.4%
Western Europe	1	1	100.0%		0.0%
Eastern Europe					
South America	1	1	100.0%		0.0%
Australia	20	13	65.0%	7	35.0%
New Zealand	3	3	100.0%		0.0%
Pacific					
Africa					
Asia					
Scandinavia	1		0.0%	1	100.0%
Latin America					
Ireland	2	2	100.0%		0.0%
Southern Europe					
Western Asia					
South Central Asia					
Total	92	66	71.7%	26	28.3%

Table 10: Critical papers classified as "discussion" or "empirical" by region

REGION	No. of Papers	JOURNALS									CONFERENCES						CRITICAL		BOOK
		United States*				European*					US - centred		Asia/Pacific		Pan	European			
		Com of ACM	ISR	JMIS	MISQ	EJIS	Info & Org'n	ISJ	IT & P	JIT	AMCIS	ICIS	ACIS	PACIS	IFIP WG8.2	ECIS	CRIS 1	CRIS 2	Handbook
United States	15							1	2		4				1	1	1	1	4
Canada	2														2				
Central America																			
United Kingdom	47					1	1	4		7	3				8	4	4	5	10
Western Europe	1																1		
Eastern Europe																			
South America	1										1								
Australia	20							1		3	5		5	1		2	1	1	1
New Zealand	3									1							1		1
Pacific																			
Africa																			
Asia																			
Scandinavia	1														1				
Latin America																			
Ireland	2									1					1				
Southern Europe																			
Western Asia																			
South Central Asia																			
Total	92	0	0	0	0	1	1	6	2	12	13	0	5	1	13	7	8	7	16

** The journals have been categorised on the basis of the country of publication. It is reasonable to assume that the composition of the editorial boards of these journals has a strong influence on its editorial policy which is reflected in the type of papers that are published. In the case of some of the journals, the editorial boards comprise members from many countries. For this reason, the journals could be categorised on these bases, such as the editorial board composition.*

Table 11: Region of first authors of papers classified as critical (either discussion or empirical) published in each surveyed publication in the years 2001 - 2005

REGION	No. of Papers	JOURNALS									CONFERENCES						CRITICAL		BOOK
		United States*				European*					US - centred		Asia/Pacific		Pan	European			
		Com of ACM	ISR	JMIS	MISQ	EJIS	Info & Org'n	ISJ	IT & P	JIT	AMCIS	ICIS	ACIS	PACIS	IFIP WG8.2	ECIS	CRIS 1	CRIS 2	Handbook
United States	9							1	2		2					1	1		2
Canada																			
Central America																			
United Kingdom	16							2		3	3				2		1	3	2
Western Europe	1																1		
Eastern Europe																			
South America	1										1								
Australia	7							1		1	2		2	1					
New Zealand	3									1							1		1
Pacific																			
Africa																			
Asia																			
Scandinavia	1														1				
Latin America																			
Ireland	2									1					1				
Southern Europe																			
Western Asia																			
South Central Asia																			
Total	40	0	0	0	0	0	0	4	2	6	8	0	2	1	4	1	4	3	5

Table 12: Region of first male authors of papers classified as critical (either discussion or empirical) published in each surveyed publication in the years 2001 - 2005

REGION	No. of Papers	JOURNALS									CONFERENCES						CRITICAL		BOOK
		United States*				European*					US - centred		Asia/Pacific		Pan	European			
		Com of ACM	ISR	JMIS	MISQ	EJIS	Info & Org'n	ISJ	IT & P	JIT	AMCIS	ICIS	ACIS	PACIS	IFIP WG8.2	ECIS	CRIS 1	CRIS 2	Handbook
United States	6										2				1			1	2
Canada	2														2				
Central America																			
United Kingdom	31					1	1	2		4					6	4	3	2	8
Western Europe																			
Eastern Europe																			
South America																			
Australia	13									2	3		3			2	1	1	1
New Zealand																			
Pacific																			
Africa																			
Asia																			
Scandinavia																			
Latin America																			
Ireland																			
Southern Europe																			
Western Asia																			
South Central Asia																			
Total	52	0	0	0	0	1	1	2	0	6	5	0	3	0	9	6	4	4	11

Table 13: Region of first female authors of papers classified as critical (either discussion or empirical) published in each surveyed publication in the years 2001 - 2005

Most Prolific Authors	Region	No. of Papers	Discussion-comparison papers	Discussion alone papers	Empirical papers
Female					
Adam	United Kingdom	4	3	1	
Brooke	United Kingdom	3		2	1
Čečez-Kecmanović	Australia	11	4	4	3
Howcroft	United Kingdom	3		3	
Klecun	United Kingdom	3	2	3	4
Kvasny	United States	3		3	
McGrath	United Kingdom	3		2	1
Wilson	United Kingdom	5		4	1
Total		35	9	22	10
Male					
Campbell	Australia	3			3
Doolin	New Zealand	3	1	2	
Janson	United States	3			4
Probert	United Kingdom	3	1	2	
Stahl	United Kingdom	2		2	
Stahl	Ireland	1		1	
Total		15	2	7	7

Table 14 – Most prolific authors by gender and content code

APPENDIX B: LIST OF ACRONYMS

Acronym	Full Description
IS	Information Systems
CMS	Critical Management Studies
IFIP WG8.2	International Federation for Information Processing Working Group 8.2
US	United States
MIS	Management Information Systems
ICIS	International Conference on Information Systems
ISR	Information Systems Research
MISQ	MIS Quarterly
EJIS	European Journal of Information Systems
ISJ	Information Systems Journal
I&O	Information & Organization
JIT	Journal of Information Technology
CACM	Communications of the ACM
JMIS	Journal of MIS
MS	Management Science
ITP	Information Technology and People
AMCIS	Americas Conference on Information Systems
ECIS	European Conference on Information Systems
ACIS	Australasian Conference on Information Systems
PACIS	Pacific Asia Conference on Information Systems
HICSS	Hawaii International Conference on System Sciences
Handbook	Handbook of Critical Information Systems Research

ABOUT THE AUTHOR

Donald Falconer is an academic in the School of Computer and Information Science at the University of South Australia. He has extensive experience in research and teaching in information systems strategy and management. In recent years his research interests have focused on the social roles of information and communications technologies from a critical theory perspective.

Communications of the Association for Information Systems

ISSN: 1529-3181

Communications of the Association for Information Systems